

OCT 20 2006

Docket No. 740756-2651

Serial No. 10/663,671

Page 2

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Withdrawn) A laser apparatus comprising:
an optical system for sampling a part of a laser beam emitted from an oscillator;
a sensor for generating an electric signal including fluctuation in energy of the laser beam as a data from the part of the laser beam;
a means for performing signal processing to the electric signal to grasp a state of the fluctuation in energy of the laser beam, and controlling a relative speed of a beam spot of the laser beam to an object so as to be in phase with the fluctuation in energy of the laser beam.
2. (Withdrawn) A laser apparatus comprising:
an optical system for sampling a part of a laser beam emitted from an oscillator;
a sensor for generating an electric signal including fluctuation in energy of the laser beam as a data from the part of the laser beam;
a means for performing signal processing to the electric signal to grasp a state of the fluctuation in energy of the laser beam, and controlling a position of an object so that a relative speed of a beam spot of the laser beam to the object is in phase with the fluctuation in energy of the laser beam.
3. (Withdrawn) A laser apparatus comprising:
an optical system for sampling a part of a laser beam emitted from an oscillator;
a sensor for generating an electric signal including fluctuation in energy of the laser beam as a data from the part of the laser beam;
a means for performing signal processing to the electric signal to grasp a state of the fluctuation in energy of the laser beam, and controlling a position of a beam spot of the laser beam so that a relative speed of the beam spot to an object is in phase with the fluctuation in energy of the laser beam,
wherein a position of the object is fixed.
4. (Previously Presented) A laser irradiation method comprising:

10162958.2

Docket No. 740756-2651
Serial No. 10/663,671
Page 3

sampling a part of a laser beam emitted from an oscillator;
generating an electric signal including fluctuation in energy of the laser beam as
data;
performing signal processing to the electric signal to grasp a state of the fluctuation
in energy of the laser beam; and
controlling a relative speed of a beam spot of the laser beam to an object so as to be
in phase with the fluctuation in energy of the laser beam.

5. (Currently Amended) A laser irradiation method comprising [[of]]:
sampling a part of a laser beam emitted from an oscillator;
generating an electric signal including fluctuation in energy of the laser beam as
data;
performing signal processing to the electric signal to grasp a state of the fluctuation
in energy of the laser beam; and
controlling a position of an object so that a relative speed of a beam spot of the laser
beam to the object is in phase with the fluctuation in energy of the laser beam.

6. (Previously Presented) A laser irradiation method comprising:
sampling a part of a laser beam emitted from an oscillator;
generating an electric signal including fluctuation in energy of the laser beam as
data;
performing signal processing to the electric signal to grasp a state of the fluctuation
in energy of the laser beam; and
controlling a position of a beam spot of the laser beam so that a relative speed of the
beam spot to an object is in phase with the fluctuation in energy of the laser beam,
wherein a position of the object is fixed.

7. (Currently Amended) A method of manufacturing a semiconductor device,
comprising:
sampling a part of a laser beam emitted from an oscillator;

10162958.2

Docket No. 740756-2651
Serial No. 10/663,671
Page 4

generating an electric signal including fluctuation in energy of the laser beam as data
~~form from~~ the part of the laser beam;

performing signal processing to the electric signal to grasp a state of the fluctuation
in energy of the laser beam; [[and]]

controlling a relative speed of a beam spot of the laser beam to a semiconductor film
so as to be in phase with the fluctuation in energy of the laser beam, and

crystallizing the semiconductor film by irradiation of the laser beam.

8. (Currently Amended) A method of manufacturing a semiconductor device,
comprising:

sampling a part of a laser beam emitted from an oscillator;

generating an electric signal including fluctuation in energy of the laser beam as data
~~form from~~ the part of the laser beam;

performing signal processing to the electric signal to calculate a frequency, an
amplitude, and a phase of the fluctuation in energy of the laser beam;

controlling a position of a semiconductor film so that a relative speed of a beam spot
of the laser beam to the semiconductor film is in phase with the fluctuation in energy of the
laser beam ~~controlling a relative speed of a beam spot of the laser beam to a semiconductor~~
~~film with a phase of a signal in synchronization with oscillation of the laser beam emitted~~
~~from the oscillator, a phase difference between the calculated phase and the phase of the~~
~~signal, a ratio of energy of the part of the laser beam to the laser beam emitted from the~~
~~oscillator, the calculated frequency, and the calculated amplitude so as to be in phase with the~~
~~fluctuation in energy of the laser beam; and~~

crystallizing the semiconductor film by irradiation of the laser beam.

9. (Previously Presented) A laser irradiation method comprising a step of
controlling a relative speed of a beam spot of a laser beam to an object so as to be in phase
with fluctuation in energy of the laser beam.

10. (Previously Presented) A laser irradiation method comprising a step of
controlling a relative speed of a beam spot of a laser beam to an object so that at least a

10162958.2

Docket No. 740756-2651
Serial No. 10/663,671
Page 5

frequency and an amplitude of fluctuation in energy of the laser beam are in phase with the fluctuation in energy of the laser beam.

11. (Previously Presented) The laser irradiation method according to claim 4, wherein the signal processing is Fast Fourier transformation.

12. (Previously Presented) The laser irradiation method according to claim 5, wherein the signal processing is Fast Fourier transformation.

13. (Previously Presented) The laser irradiation method according to claim 6, wherein the signal processing is Fast Fourier transformation.

14. (Previously Presented) The method of manufacturing a semiconductor device according to claim 7, wherein the signal processing is Fast Fourier transformation.

15. (Previously Presented) The method of manufacturing a semiconductor device according to claim 8, wherein the signal processing is Fast Fourier transformation.